

ABSTRACT

The method for heating a plurality of ceramic bodies, includes:

- a) providing ceramic-forming raw materials and blending the raw materials with an effective amount of vehicle and forming aids to form a plastic mixture therefrom and thereafter forming the plastic raw material mixture into a plurality of green bodies;
- b) placing each one of the plurality of green bodies in proximity to an adjacent one of the plurality of green bodies such that upon heating with electromagnetic waves each green body is subject to no more than about 1.5 times the power density at the boundary than in the bulk thereof; and
- c) drying the green bodies utilizing energy in the form of electromagnetic waves.

When the ceramic is a honeycomb cellular cordierite body, the method further includes heating the green bodies up to a maximum temperature of between about 1360 °C and about 1435 °C to produce fired bodies that are predominantly cordierite, wherein the firing includes utilizing a combination of microwave and convective or radiative heating during periods where the green bodies are subject to an endothermic reaction or phase transition.

The method for the firing of a honeycomb cellular cordierite bodies further includes placing each one of the plurality of green bodies in proximity to an adjacent one of the plurality of green bodies within a firing chamber such that upon heating with electromagnetic waves each green body is subject to no more than about 5 times the power density at the boundary than in the bulk thereof.